19JN8

TRIODE-PENTODE

DESCRIPTION AND RATING

The 19JN8 is a miniature tube containing a sharp-cutoff pentode and a medium-mu triode.

GENERAL

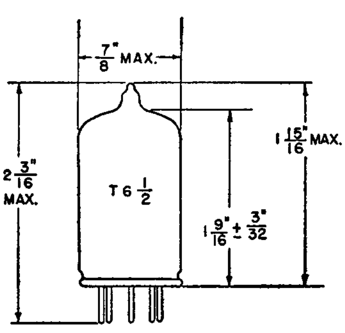
ELECTRICAL

Cathode—Coated Unipotential
Heater Characteristics and Ratings
Heater Voltage, AC or DC* . . . . 18.9 Volts
Heater Current† . . . . 0.15 ± 0.01 Amperes
Direct Interelectrode Capacitances‡
  Pentode Section
    Grid-Number 1 to Plate, maximum:
    (g1 to p) . . . . 0.01 pf
    Input: Pg1 to (h + Pk + Pg2 + Pg3 + i.s.) . . . . 5.5 pf
    Output: Pp to (h + Pk + Pg2 + Pg3 + i.s.) . . . 3.4 pf
  Triode Section
    Grid to Plate: (g to p) . . . . 1.7 pf
    Input: g to (h + Tk + Pk + Pg3 + i.s.) . . . . . . 3.2 pf
    Output: p to (h + Tk + Pk + Pg3 + i.s.) . . . . . 2.2 pf

MECHANICAL

Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin
Outline Drawing—EIA 6-2
  Maximum Diameter . . . . ⅞ Inches
  Maximum Over-all Length . . . . . $2\frac{3}{16}$ Inches
  Maximum Seated Height . . . . $1\frac{15}{16}$ Inches

PHYSICAL DIMENSIONS

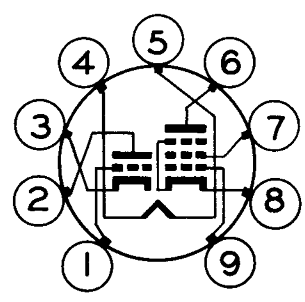


EIA 6-2

TERMINAL CONNECTIONS

Pin 1—Triode Grid
Pin 2—Triode Plate
Pin 3—Triode Cathode
Pin 4—Heater
Pin 5—Heater
Pin 6—Pentode Plate
Pin 7—Pentode Grid Number 2 (Screen)
Pin 8—Pentode Cathode, Grid Number 3, and Internal Shield
Pin 9—Pentode Grid Number 1

BASING DIAGRAM



EIA 9FA

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

	Pentode Section	Triode Section	
Plate Voltage	300	300	Volts
Screen Supply Voltage	300	...	Volts
Screen Voltage—See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	2.5	2.5	Watts
Screen Dissipation	0.55	...	Watts
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	2.2	2.2	Megohms
With Cathode Bias	2.2	2.2	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Pentode Section	Triode Section	
Plate Voltage	125	125	Volts
Screen Voltage	125	...	Volts
Grid-Number 1 Voltage	−1.0	−1.0	Volts
Amplification Factor	...	46	
Plate Resistance, approximate	200000	5400	Ohms
Transconductance	7500	8500	Micromhos
Plate Current	12	13.5	Milliamperes
Screen Current	4.0	...	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib = 10 Microamperes	−8	−8	Volts

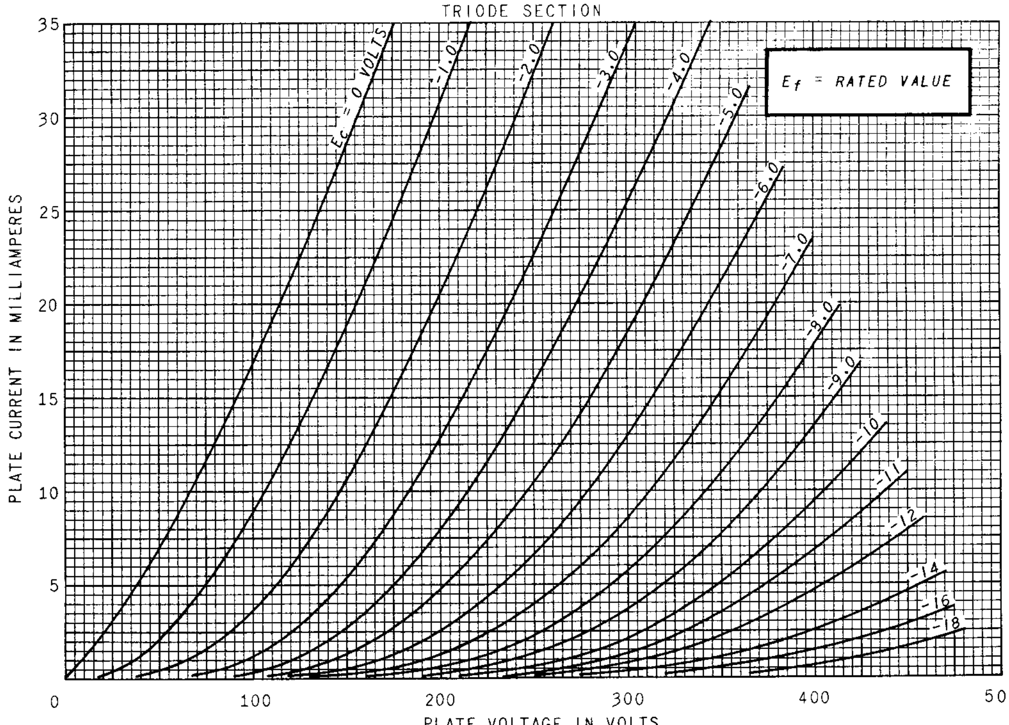
* Heater voltage for a bogey tube at If = 0.15 amperes.

† For series heater operation, the equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.

‡ With external shield (EIA 315) connected to cathode of section under test.

AVERAGE PLATE CHARACTERISTICS

TRIODE SECTION

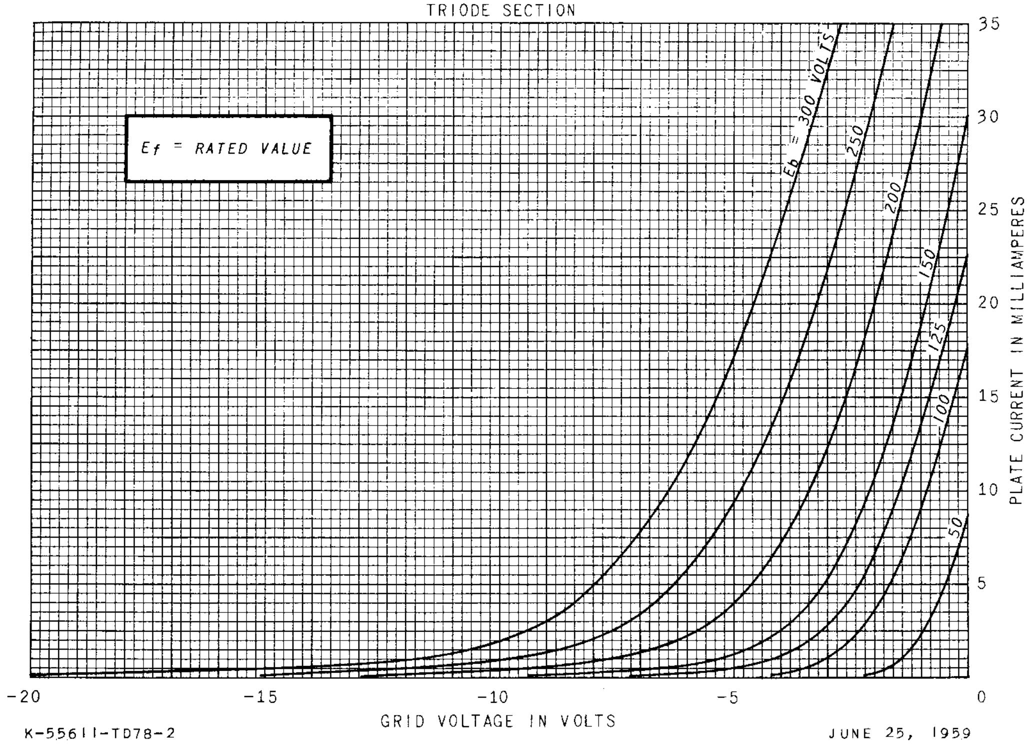


K-55611-TD78-1

JUNE 25, 1959

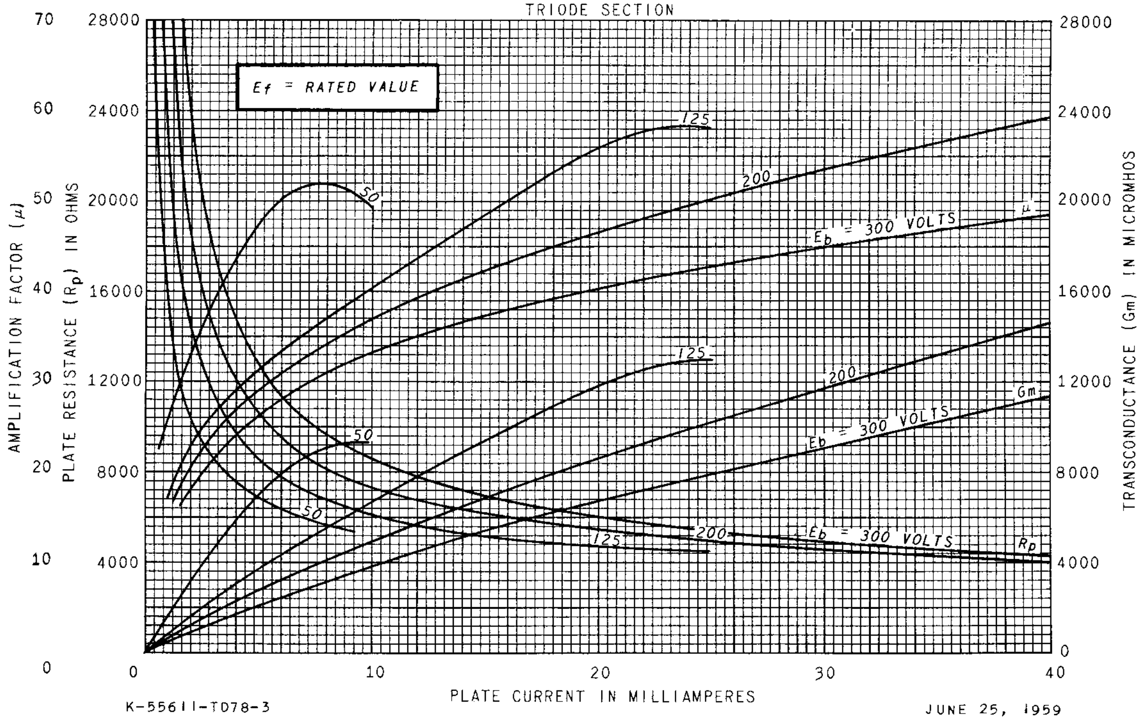
AVERAGE TRANSFER CHARACTERISTICS

TRIODE SECTION



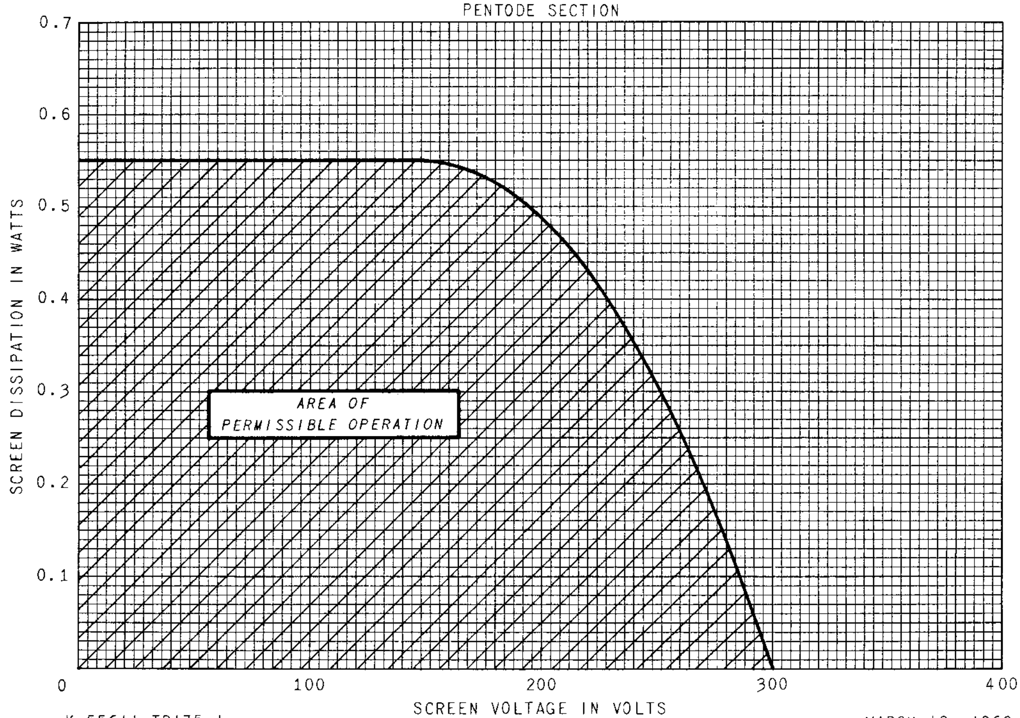
AVERAGE CHARACTERISTICS

TRIODE SECTION



SCREEN RATING CHART

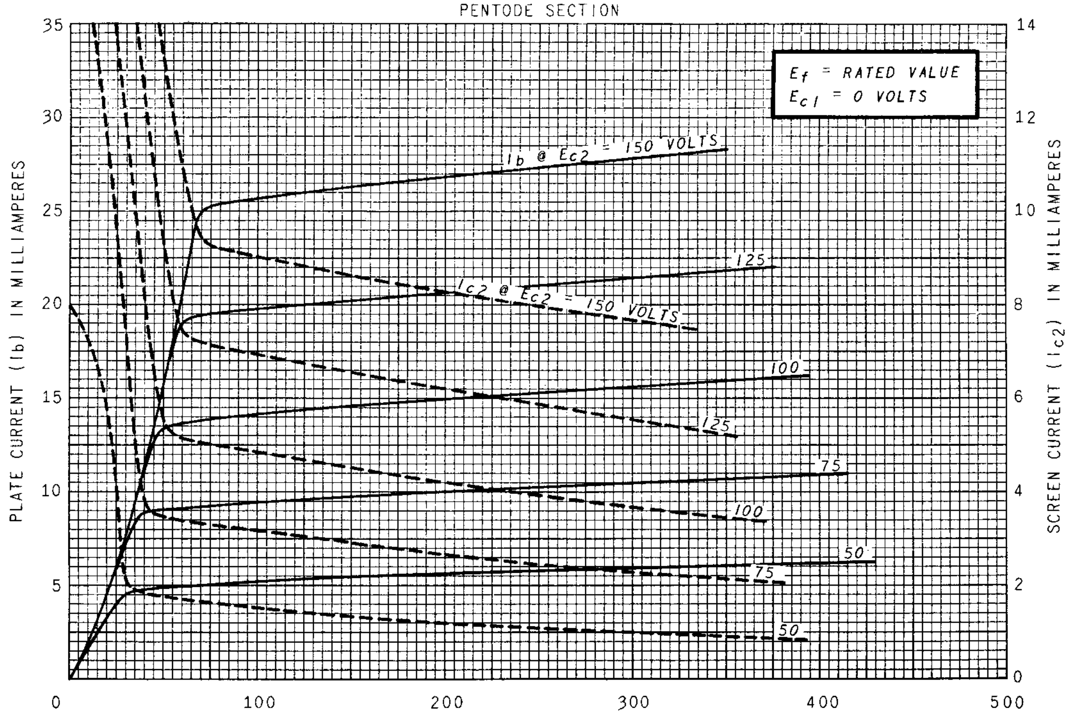
PENTODE SECTION



K-55611-TD175-1 MARCH 12, 1962

AVERAGE PLATE CHARACTERISTICS

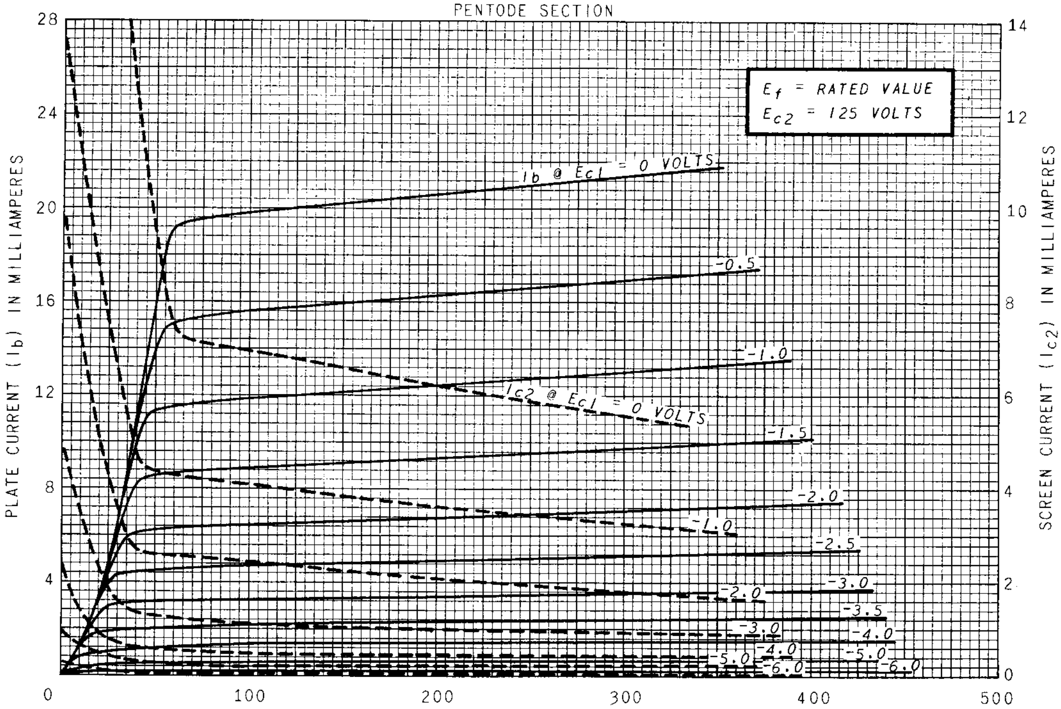
PENTODE SECTION



K-55611-TD78-4 JUNE 25, 1959

AVERAGE PLATE CHARACTERISTICS

PENTODE SECTION

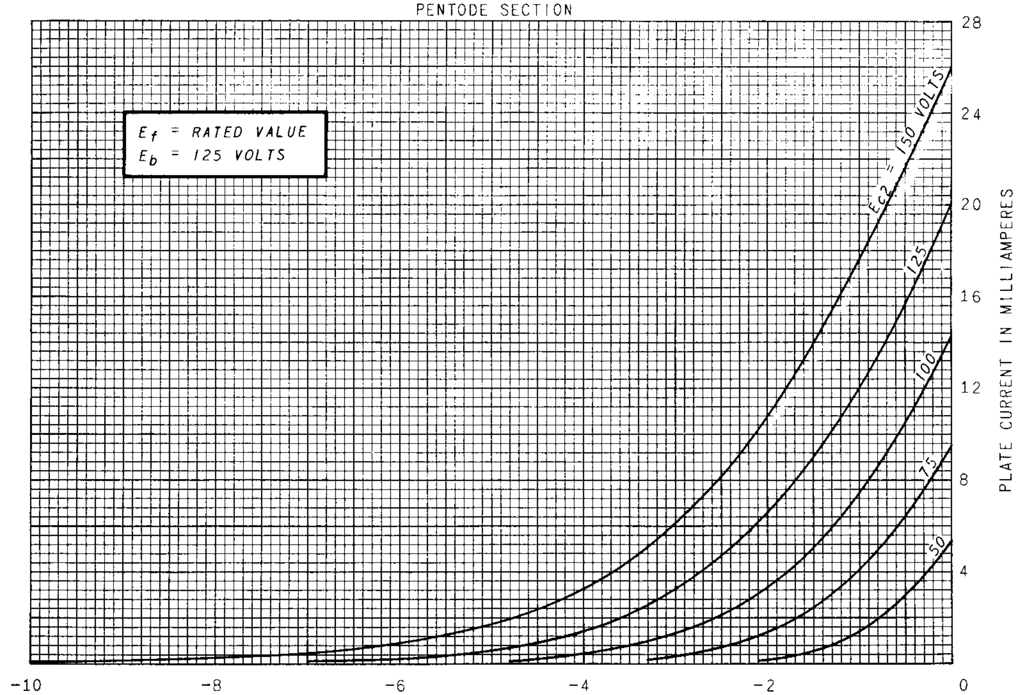


K-55611-TD78-5

JUNE 25, 1959

AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION

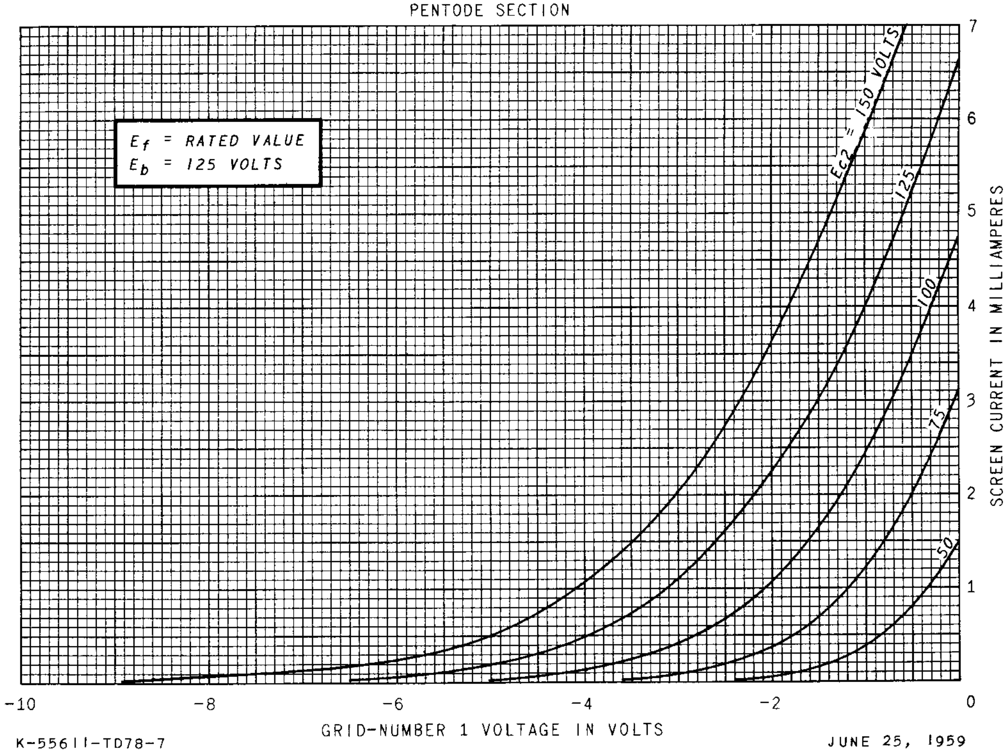


K-55611-TD78-6

JUNE 25, 1959

AVERAGE TRANSFER CHARACTERISTICS

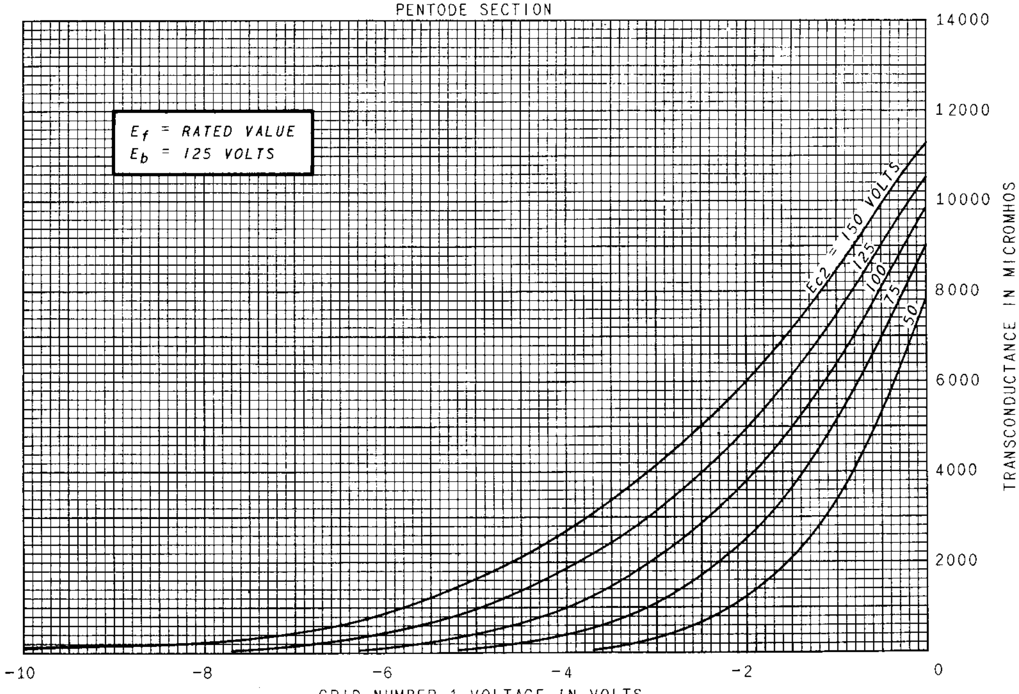
PENTODE SECTION



K-55611-TD78-7 JUNE 25, 1959

AVERAGE TRANSFER CHARACTERISTICS

PENTODE SECTION



K-55611-TD78-8 JUNE 25, 1959